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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,102	01/31/2002	Steven Teig	SPLX.P0106	6032
23349	7590	11/15/2004	EXAMINER	
STATTler JOHANSEN & ADELI			GARBOWSKI, LEIGH M	
P O BOX 51860			ART UNIT	PAPER NUMBER
PALO ALTO, CA 94303			2825	

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/066,102

Applicant(s)

TEIG ET AL.

Examiner

Leigh Marie Garbowski

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 August 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 16-19 is/are allowed.  
6) ☒ Claim(s) 1-7 and 11-19 is/are rejected.  
7) ☒ Claim(s) 8-10, 14 and 15 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date (5 sheets) 7/12/04 and 8/11/04  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

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***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Taking claim 12 as exemplary, considering that at least two interconnect lines intersect at each Steiner point, what is meant by each Steiner point having a circular shape is confusing; a point is dimensionless and cannot have shape?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6-7 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Scepanovic et al. [U.S. Patent #5,578,840].

As per claim 1, Scepanovic et al. disclose an IC layout [figure 3] comprising: a) a plurality of interconnect lines [elements 60, 62, 64]; and b) a first set of Steiner points that are in shape of a non-quadrilateral polygon; wherein at least two interconnect lines intersect at each Steiner point, wherein the Steiner points in the first set of Steiner points are not vias [elements 32]. As per claims 6-7, Scepanovic et al. further disclose wherein the polygon is a hexagon, has six equal sides [figure 3]. As per claim 12, Scepanovic et al. disclose an IC layout [figures 3 and 11] comprising: a) a plurality of interconnect lines [60,62,64]; and b) a first set of Steiner points [elements 32 and 164; column 8, lines 30-36]. As per claim 13, Scepanovic et al. further disclose a second set of Steiner points [column 6, lines 57-59; column 8, lines 30-42].

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Claims 1-7 and 12-13 rejected under 35 U.S.C. 102(b) as being anticipated by Rostoker et al. [U.S. Patent #5,822,214].

As per claim 1, Rostoker et al. disclose an IC layout [figure 73] comprising: a) a plurality of interconnect lines [elements 2060, 2062, 2064]; and b) a first set of Steiner points that are in the shape of a non-quadrilateral polygon, wherein at least two interconnect lines intersect at each Steiner point, wherein the Steiner points in the first set of Steiner points are not vias [elements 2032]. As per claims 2-3, Rostoker et al. further disclose wherein the polygon is an octagon, has eight equal sides [column 18, lines 22-29]. As per claim 4, Rostoker et al. further disclose a second set of Steiner points that have a diamond shape [column 18, lines 22-29]. As per claim 5, Rostoker et al. further disclose a third set of Steiner points that have a rectangular shape [column 18, lines 22-29]. As per claims 6-7, Rostoker et al. further disclose wherein the polygon is a hexagon, has six equal sides [column 18, lines 22-29]. As per claim 12, Rostoker et al. disclose an IC layout [figures 73 and 80 ] comprising: a) a plurality of interconnect lines [elements 2060, 2062, 2064] and b) a first set of Steiner points [elements 2032 and 2164]. As per claim 13, Rostoker et al. further disclose a second set of Steiner points [elements 2032 and 2164].

#### ***Allowable Subject Matter***

Claims 8-11 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not disclose or teach wherein the interconnect lines have ends that are partial non-quadrilateral polygons in combination with all of the features recited.

Claims 16-19 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art of record does not disclose or teach an integrated circuit layout comprising: a) a plurality of interconnect lines, wherein the interconnect lines

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have ends that are partial non-quadrilateral polygons, and b) a plurality of Steiner points that are in the shape of a non-quadrilateral polygon, wherein at least two interconnect lines intersect at each Steiner point, wherein each of a plurality of Steiner points are not vias.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

Applicant's arguments filed 06/21/2004 and 08/27/2004 have been fully considered but they are not persuasive. Although the cited references disclose that the circuit cells have various shapes, it is clear from the figures that a particular arrangement of interconnect points results in the IC layouts as claimed and rejected above.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Marie Garbowski whose telephone number is 571-272-1893. The examiner can normally be reached on days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2800.



LEIGH M. GARBOWSKI  
PRIMARY EXAMINER